

Rosenzweig

RUMANIA/Human and Animal Physiology - Nervous System.

R-12

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71149
Author : Rosenzweig, Giurgea, Braun
Inst :
Title : Electroencephalograph in a Complete Heart Block.
Orig Pub : Acta neurol. et psychiatr, belg., 1956, 56, No 10,
684-691

Abstract : No abstract.

Card 1/1

- 98 -

Rosenzweig, S.

RUMANIA/Human and Animal Physiology - Blood Circulation.
General Problems.

T-4

Abs Jour : Ref Zhur - Biol., No 18, 1958, 84162

Author : Braun, A., Rosenzweig, S., Schiau, S.

Inst : Rumanian AS, Iasi Medical Branch.

Title : Roentgenkymography in Total Atrioventricular Blocks.

Orig Pub : Studii si cercetari stiint. Acad. RPR Fil. Iasi, Med.,
1956, 7, No 1, 103-110.

Abstract : No abstract.

Card 1/1

ROSENZWEIG, S.; ELIAN, N.; COMANESCU, A.; BARNEA, M.

Study of the role of environment in the etiology and pathogenesis
of rheumatic diseases; rheumatogenic factors in the coal industry.
Probl. reumat., Bucur. 3:95-134 1955.

(RHEUMATISM

in workers of coal indust., etiol.)

(OCCUPATIONAL DISEASES

rheum. dis. in workers of coal indust., etiol.)

ROSENZWEIG, S.,; PARTENI, L.,; STANCU, Al.

The effect of paraaminobenzoic acid on salicylemia. Probl. reumat.
Bucur. Vol.:85-95 1954.

(RHEUMATISM, ther.

sodium salicylate, eff. of paraaminobenzoic acid
on salicylemia)

(PARAAMINOBENZOIC ACID, eff.

BRUCKNER, I.; ROSENZWEIG, S.; PETRESCU, D.; BUZI, T.

Study of complement in rheumatic diseases. Probl. reumat.,
Bucur. 4:83-89 1956.

(RHEUMATISM, blood in
complement, variations & progn. value of fixation tests)
(COMPLEMENT
fixation in rheum. dis., progn. value)

BRUCKNER, I., Prof.; ROSENZWEIG, S., dr.

Synthetic antimalarials in therapy of chronic evolutive polyarthritis. Med. inst., Bucur. 9 no.1:43-52 Jan 57.

1. Clinica medicala Filantropia si Institutul de fiziologie normala si patologica, Prof. D. Danielopolu al Academiei R.P.R.

(ARTHRITIS, RHEUMATOID, therapy
antimalarials)

(ANTIMALARIALS, ther. use
rheum. arthritis)

ROSENZWEIG, S.

Studies begun in the Roumanian People's Republic on the etiology, pathogenesis and preventive and curative therapy of rheumatic diseases and diseases of the locomotor apparatus; organization of prevention of such diseases. Probl. reumat., Bucur. 3:11-69 1955.

(RHEUMATISM
etiol. & ther., research in Roumania & organiz.
of prev.)

(MOVEMENT DISORDERS
(SAME)

ROSENZWEIG, S.,; SCHIAU, S.,; STOENESCU, D.

Study of hypertrophic pneumic osteoarthropathy. Probl. reumat.,
Bucur. Vol. II.:117-135 1954

(OSTEOARTHROPATHY, HYPERSTROPHIC PULMONARY
differ. diag. & pathol.)

ROSENSZWIG, S.; BITTMAN, E.

Study of the cases of rheumatic diseases and cardiovascular diseases hospitalized at the medical clinic of the State Hospital No. 5 (philanthropic) from 1940 to 1950. Probl. reumat., Bucur. Vol. II.:25-48 1954.

(RHEUMATISM, compl.
cardiovascular dis., hosp. statist. in Rumania)
(CARDIOVASCULAR DISEASES, compl.
rheum. dis., hosp. statist. in Rumania)

ROSENZWEIG, S.

Electrocardiographical changes in athletes; study of marathon
runners and skiers. Rev. st. med., med. int., Bucur. 6 no.1:
95-106 Jan-Mar 54.

1. Institutul de Fiziologie Normală și Patologică al Academiei
R.P.R.

(ELECTROCARDIOGRAPHY
eff. of exercise, in marathon runners & skiers)
(EXERCISE, effects
on ECG, in marathon runners & skiers)

CA

Water-soluble compounds of 8-hydroxyquinaldinsulfonic acid having therapeutic properties. Salo, Roepkeveit, Austrian 189,188, July 10, 1940. 8-Hydroxyquinaldine monosulfonic acids or 8-hydroxy-8,7-quinalinedisulfonic acid and substitution products thereof, e.g., halogen derivs., are treated in a known manner with the oxides, hydrides, carbonates, or alk. salts of Al and/or Zn. The products obtained, contg. 2-20% metal, have disinfectant and astrin-gent properties in 4% water solns. and are useful as after-shaving lotions, etc.

P. Epstein

ROSENZWEIG, S. A.

S. A. Rosenzweig and B. N. Kabanov, The passivation of iron and the cathode reduction of the hydrate of ferrous oxide. Pp. 1214-8.

In this work the causes for the phenomenon of increased passivity of iron at a repeated anode oxidation were investigated; the process of the cathode reduction of the hydrate of ferrous oxide was studied.

Inst. of Physical Chemistry of the
Academy of Sciences U.S.S.R.
Dept. of Electrochemistry, Moscow
February 5, 1948.

SO: Journal of Physical Chemistry (USSR) 22, 10, 1948.

ROGER, H.

"The 300kV Brauweiler-Rheinau transmission scheme."

Elektrotech. Z. (ETZ) A, 74, 93-8 (Feb. 11, 1953)

SOURCE: SCIENCE ABSTRACTS, Section B, Electrical Engineering Abstracts,
(June 1953), Unclassified.

ROSER, O.; HORVATH, E.

The A-2 and the speed championship! Florence, 1956. p. 24.
(Repules, No. 1, Apr. 1957. Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 9, Sept. 1957. Uncl.

ROSESCU, Th.; SABAU, M.

Distribution of the neutron flux and γ -radiations in the nuclear reactor VVR-S of the Institute of Atomic Physics of Bucharest.
Studii cerc fiz 12 no.3:563-569 '61.

(Gamma rays) (Radiation) (Nuclear reactors)

FILIP, A.; ROSESCU, Th.

Measurement of the fluxes in horizontal ducts of the reactor VVR-S
for the best protection against radiation. Studii cerc fiz 12 no.3:
571-581 '61.

1. Institutul de fizica atomica, Bucuresti.

(Nuclear reactors) (Radiation)

SABAU, M.; ROSESCU, Th.

Determining the conjugate flux of thermal neutrons by perturbation tests. Studii cerc fiz 12 no.3:583-587 '61.

1. Institutul de fizica atomica, Bucuresti.

(Neutrons) (Perturbation) (Nuclear reactors)

EXCERPTA MEDICA Sec 11 Vol 12/6 G.R.L. June 59

1187. FREE SKIN GRAFT MYRINGOPLASTY WITH THE AID OF KOLOKOLTSOV'S GLUE (Russian text) - Yaroslavsky A. P. and Roset L. Ya. Vyborg - VESTN. OTO-RINO-LARING. 1958, 20/6 (36-38)

For the closure of dry perforations of the tympanic membrane the authors used a free skin graft, which was fixed on the membrane with the aid of Kolokoltsov's glue (73.5 parts of ether, 25 parts of pine resin and 1.5 of natural resin). Myringoplasty was performed in 10 patients, in two of the latter it was unsuccessful. The remaining 8 patients were discharged from the hospital on the 8-10th day with good results.

(XI, 19*)

ROSET, E. [Rosset, E.]

The number of years people live. Priroda Bilg 13 no.6:81-82
N-D '64.

1. Corresponding Member of the Polish Academy of Sciences.

HUSTY, Zdenok (Brno); VEJSADA, Frantisek (Coske Budejovice); BODIÁK, Vaclav (Karlovy Vary); DUNAJSKY, Ladislav (Nitro); LIPIL, Oldrich (Olomouc); HORACEK, Rudolf (Olomouc); HRADECKY, Frantisek (Praha); KIGUTSKA, Milda (Trnava); PROCHAZKA, Jiri (Usti nad Labem)

Reports from local organizations of the Union of Czechoslovak Mathematicians and Physicists. Pokroky mat fyz astr 9 no.2:134-141 '64.

ROSETTI, Gr., ing.

Exchange of experience on problems of land organization. Rev
geodezie 8 no.4:65-66 '64.

"APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001445330011-9

ROSETTI, Gr., ing.

Scientific and technical data. Rev geodesia 8 no. 2:62-64
'64.

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R001445330011-9"

ROSETTI, Gr., ing.

Tenth Scientific Session of the Teaching Staff of the Institute
of Constructions, Bucharest. Rev geodezie 9 no.1:76-78 '65.

RUMANIA

ROSETTI, Matilda, Cand Sci.

Bucharest, Farmacia, No 6, Jun 63, pp 353-357

"The Mutarotation of Glucose with the Aid of Ion-changing
Resins."

RUMANIA

ROSETTI, Matilda, Cand Pharmaceutical Sci.

Bucharest, Farmacia, No 8, Aug 1963, pp 469-475

"Research on the Dynamics of the Adsorption Process of Invertase
on Ion Exchange Resins."

ROSETTI, U.

Tests of fatigue with constant and progressive load comparison between
the scatterings of the results. Acta techn Hung 35/36:153-160 '61

1: Politechico di Torino.

ROSEV, K.

Hand injuries in childhood. Acta chir. orthop.traum. czech.
30.no.6:507-510 D'63.

1. Klinika plasticke chirurgie lekarske fakulty hygienicke KU
v Praze; prednosta: prof. dr. V.Karfik.

*

ZVEREV, M.S.; SHARONOV, V.V., prof.; MAGNITSKIY, V.A., prof.; SHRUTKA,
Guntram [Schrutka, Guntram], prof.; YURI, Garol'd [Urey, Harold C.],
laureat Nobelevskoy premii (SShA); KOPAL, Zdenek, prof.; KOZEL,
Karol, prof.; ROSH, Zhan [Rosh, J.]

Twenty-two answers to three questions. Nauka i zhizn' 28 no.3:23,25,
29, 30-32 Mr '61. (MIRA 14:3)

1. Chlen-korresspondent AN SSSR (for Zverev).
2. Direktor astronomicheskoy observatorii Leningradskogo universiteta (for Sharonov).
3. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (for Mangitskiy).
4. Venskiy universitet (Avstriya) (for Shrutka).
5. Manchesterskiy universitet (Angliya) (for Kopal).
6. Krakovskiy universitet (Pol'sha) (for Kozel).
7. Observatoriya Pik-dyu-Midi (Frantsiya) (for Rosh).
(Moon)

06383
SOV/170-59-2-1/23

24(8)

AUTHORS:

Tsiborovskiy, Ya., Roshak, Ya.

TITLE:

An Investigation of Heat Exchange Between Gas and Solid Particles of a Fluidized Bed

PERIODICAL:

Inzhenerno-fizicheskiy zhurnal, 1959, Nr 2, pp 3-9 (USSR)

ABSTRACT:

This paper is a translation from the Polish made by P.D. Gatillo. The data published thus far on the value of the heat exchange between gas and solid particles of a fluidized bed are very divergent. To clear up the cause of these divergencies the authors carried out experiments having made use of the modified Wamsley [Ref 3] method of non-stationary heat flux and an apparatus already employed previously by the authors [Refs 5,6]. Three fractions of sand with diameters of 0.29, 0.59 and 1.00 mm were used in experiments. The authors compile a differential equation of heat equilibrium, Formula 4, under an assumption that the gas temperature in each point of the fluidized bed is constant and equal to the temperature of the outgoing gas. The solution of this equation, Formula 10, has the shape of a straight line $\lg B = -m + \lg B_0$ (Formula 12) in which the value of B can be determined from experimental data and measurements of temperature of the outgoing gas. A graphical solution of this equation is

At

Car Card 1/2

ROSHAL', A.I.

Effect of microelements on the yield and quality of the grass stand
of cultivated pastures on drained peat bogs. Ukr. bot. zhur. 20
no.4:30-36 '63. (MIRA 17:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya,
Kiyev.

L 27219-65

ACCESSION NR: AP5002901

S/0109/65/010/001/0073/0082

5

2

8

AUTHOR: Roshal', A. S.

TITLE: Cross-uniform-field resonator as a coupler for a fast cyclotron wave

SOURCE: Radiotekhnika i elektronika, v. 10, no. 1, 1965, 73-82

TOPIC TAGS: cyclotron wave, cyclotron frequency

ABSTRACT: An input coupler is theoretically considered for the fast cyclotron wave of an electron beam with an interaction space represented by a uniform-field capacitor. Noise elimination, signal introduction, optimum-parameter selection, etc., are discussed in connection with the cross-field resonator suggested by C. L. Cuccia (RCA Rev., 1949, 10, 2, 270). The field in the interaction space is assumed to be uniform; hence, synchronous waves are neglected; the space charge is also neglected. Only the fast and slow cyclotron waves interact with the resonator field. It is found that the noise-elimination band of the fast cyclotron

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L 27219-65

ACCESSION NR: AP5002901

wave can be broadened by so selecting the input device that its equivalent admittance and frequency derivative have the required values at the midfrequency of the specified band. This noise-elimination band is largely determined by the frequency band where the combined reactance of the resonator and the electron beam is zero. Design formulas and curves are offered for a concrete circuit; they show the effect of characteristic impedance, transit angle, noise-attenuation level, position of midfrequency, etc., upon the noise-attenuation band and the matching band. Orig. art. has: 5 figures and 47 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University)

SUBMITTED: 22Mar63

ENCL: 00

SUB CODE: EC

NO REF Sov: 001

OTHER: 004

Card 2/2

S/109/63/008/003/023/027
D271/D508

AUTHOR: Roshal', A. S.

TITLE: Self-excitation conditions of a system of resonators as a problem of eigenvalues

PERIODICAL: Radiotekhnika i elektronika, v. 8, no. 3, 1963,
522-524

TEXT: Interaction between electron flow and a system of coupled resonators is considered which takes place in a homogeneous longitudinal field between capacitor plates. The system consists of a capacity C_0 , resistance R_0 , inductance L_0 , and coupling impedance Z_c . The current in the circuit is the sum of the vector of induced currents and of the current in the capacitor which has a voltage v between plates. The matrix of equivalent admittance is obtained from Kirchhoff and current equations. The state vectors in the resonators are of the type

Card 1/3

S/109/63/008/003/023/027
D271/D308

Self-excitation conditions...

$$w(z) = A(z) w_{in} + b(z) V,$$

where V is the kinematic potential, $A(z)$ and $b(z)$ the matrix and vector obtained by solving the equation of flow in the first resonator, and w_{in} is the state vector at the input of the resonator under consideration. The induced current equation is

$$i_i = i_{io} + Y_e V,$$

where i_{io} is the current induced by input vector w_o ; Y_e is the matrix of the electron conductance of the system and V is the voltage vector in the capacitor gap. The equation is solved by successive approximations with a recurrence formula involving a matrix N and a unit matrix E . The condition of self-excitation is expressed in terms of these matrices. The equation of eigenvalues of N is $|N - \lambda E| = 0$, and λ must be ≥ 1

Card 2/3

Self-excitation conditions...

S/109/63/008/003/023/027
D271/D308

for self-excitation, and the boundary of self-excitation is given by $|N - E| = 0$. The analysis is applied to a single resonator, and the value is obtained of the magnification factor required for oscillations, as well as the true frequency of oscillations, which is not the same as the resonance value. There is 1 figure.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Faculty of Physics of the Moscow State University, im. M. V. Lomonosov)

SUBMITTED: July 3, 1962

Card 3/3

ACC NR. AP7002020

(A)

SOURCE CODE: UR/0142/66/009/005/0622/0629

AUTHOR: Kanavets, V. I.; Rassadin, V. G.; Roshal', A. S.

ORG: none

TITLE: System of coupled resonators used for coupling with fast cyclotron wave

SOURCE: IVUZ. Radiotekhnika, v. 9, no. 5, 1966, 622-629

TOPIC TAGS: cyclotron wave, cyclotron frequency, coupling system, resonator, ELEKTRON BEAM, FREQUENZ, BAND

ABSTRACT: A system of specially arranged coupled resonators is theoretically considered as a coupling device for fast cyclotron wave. As in the single-resonator case, the interaction with the electron beam takes place in the gaps which are shaped like flat capacitors having uniform cross field; however, this interaction covers a broader band in each resonator. Thanks to the special arrangement of the gaps, operation at cyclotron frequency becomes possible which eliminates the shortcomings inherent to helical distributed couplers (higher noise factor, special device for suppressing noise at the difference frequency). The adjacent resonators are inductively coupled by means of loops. By an equivalent ladder network and matrix

Card 1/2

UDC: 621.385.6

ACC NR: AP7002020

techniques, formulas for calculation of such a resonator system are derived. A numerical example calculated on a digital computer corroborated the validity of the formulas. These features are claimed: The inductively-coupled-resonator system used as an input device of a quadrupole amplifier ensures signal-energy transfer to the electron beam and noise exclusion from the beam within a broad frequency band that includes the cyclotron frequency. This device is conveniently tuned by controlling beam current and potential. The coupling band and the noise-suppression band in this device are wider by several times than the corresponding bands of a single-resonator device under comparable conditions. Orig. art. has: 6 figures and 30 formulas.

SUB CODE: 09 / SUBM DATE: 08Feb65 / ORIG REF: 003 / OTH REF: 007

Card 2/2

ROSHAL', A.S.

A noisy electron stream in a system of excited resonators. Izv.
vys. ucheb.zav.; radiofiz. 6 no.6:1184-1194 '63. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet.

KOVALEVSKIY, M.M.; ROSHAL', A.S.

Widening the noise suppression band in a quadrupole amplifier by
means of a system of detached resonators at the input. Izv.vys.
ucheb.zav.; radiofiz. 6 no.6:1195-1201 '63. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet.

L 49429-65 EWT(1)/EWA(h) Feb

ACCESSION NR: AP5010688

UR/0141/65/008/001/0177/0182

13

12

15

AUTHOR: Komolov, V. P.; Roshal', A. S.

TITLE: Logical circuits using ternary parametrons

SOURCE: IVUZ. Radiofizika, v. 8, no. 1, 1965, 177-182

TOPIC TAGS: ternary logic, logical circuit, ternary parametron, ternary logical function

ABSTRACT: Parametron circuits for ternary logical operations are discussed. The ternary parametron is based on a two-stage parametric oscillator operating under conditions of mutual synchronization. The digits (-1, 0, 1) of the ternary system are represented by three discrete carrier-frequency phases read from the phase of a reference oscillator. Its advantage lies in the use of a common transmission line and the possibility of increasing the speed by increasing the carrier frequency. Several types of parametric oscillations for use in ternary logical systems have been tested. The circuits were tuned to 1 and 2 Mc (pumping frequency, 3 Mc), and variable reactance was provided by the junction capacitance of D-205 semiconductor diodes. Factors determining the phase of steady oscillations of the third pumping subharmonic oscillator were also studied. Experiments were conducted with a screened parametron operating in a pumping modulation system at a 3-kc trigger

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L 49429-65

ACCESSION NR: AP5010688

frequency. The probability of oscillator excitation under various operating conditions and for various amplitude and phase values of the input signal was determined from these experiments. Fig. 1 of the Enclosure shows the relationship between the excitation probability P_1 and the effective signal amplitude for a parameter operating in the presence of natural thermal noise ($S/N > 1$). P_1 was determined with a probability of 0.99. The fluctuation effect on the probability of signal transmission was studied for various signal to noise (S/N) values. It was found that $P_1 = 1$ with a probability of 0.997 occurs when $S/N = 2$, provided the phase is optional. Measurements of P for various values of signal phase φ_c have shown that when $\cos \varphi_c$ is changed 30%, S/N is doubled. Parametron power consumption is very low because they operate in a state of reverse diode bias and have large internal resistances. Orig. art. has: 3 figures and 10 formulas. [JR]

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 27Mar64

ENCL: 01

SUB CODE: EC DP

NO REF SCV: 003

OTHER: 001

ATD PRESS: 4003

Card 2/3

ROSHAL', A.S.

Cavity with transverse uniform field as a communication device
with a high-speed cyclotron wave. Radiotekh. i elektron. 10 no.1:
73-82 Ja '65. (MIRA 18:2)

i. Fizicheskiy fakultet Moskovskogo gosudarstvennogo universiteta.

RQSHAL', A.S.

Conditions for the self-excitation of a system of resonators as a
problem of eigenvalues. Radiotekh. i elektron. 8 no.3:522-524.
Mr '63. (MIRA 16:3)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta
im. M.V.Lomonosova.
(Microwaves) (Electric resonators)

AKHMANOV, S. A.; ROSHAL', A. S.

Ternary triggers on parametric oscillators. Izv. vys. ucheb.
zav.; radiofiz. 5 no.5:1017-1025 '62. (MIRA 15:10)

1. Moskovskiy gosudarstvennyy universitet.

(Electronic digital computers—Circuits)
(Oscillators, Electric)

LOPUKHIN, V.M.; ROSHAL', A.S.

Amplifier using reverse current flows. Radiotekh. i elektron.
7 no.4:643-651 Ap '62. (MIRA 15:3)
(Amplifiers (Electronics))

ROMBAUT, A.S.

Determination of the resonant frequencies of a system of
coupled stages. Radiotekhnika 19 no.6:18-23 Je '64.

(MIRA 17:10)

L 42946-65 EWT(1)/EEC(b)-2/EWA(h) Pi-h/Pj-h/Pl-h/Peb/Pm-h

ACCESSION NR: AP5006390

S/0053/65/085/002/0297/0334

AUTHOR: Lopukhin, V. M.; Roshal', A. S.

TITLE: Electron-beam transverse-wave parametric amplifiers

SOURCE: Uspekhi fizicheskikh nauk, v. 85, no. 2, 1965, 297-334

TOPIC TAGS: electron beam amplifier, parametric amplifier, transverse wave amplifier

ABSTRACT: A review based on 105 Western publications (1954-64) is presented which considers electron-beam parametric amplifiers with special emphasis on the physical processes involved. The essence of the method of coupled waves is explained. Definitions and characteristics of transverse (fast and slow, cyclotron and synchronous) waves are given. The mechanism of parametric amplification is examined, using R. Adler's fast-cyclotron-wave amplifier as an example. The operation of the input (or output) coupler with a fast cyclotron wave is considered by means of a concentrated-parameter equivalent circuit. Noise sources, such as passive-coupled waves, beam noise modulation, etc., are analyzed. Noise elimination by the method of parametric cooling is mentioned. A generalization of

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L 42946-65

ACCESSION NR: AP5006390

the principle of parametric amplification includes a brief consideration of these electric-pumping-field configurations: Adler's quadrupole (with single plates and section-type), an 8-start-helix twisted quadrupole with rotating pumping field, a 4-start-helix twisted quadrupole, an axisymmetrical pumping field, a 2-variable-field pumping, waveguide structures, and a double pumping wave. These parametric amplifier types are briefly described: (a) Adler's degenerate type, (b) a nondegenerate type, (c) a lower-frequency-pumping type, (d) electrostatic amplifiers, (e) a synchronous-wave type, (f) an M-type, (g) frequency converters and multipliers, (h) magnetic-field pumping types, and (i) non-magnetic types. Distinguishing features and application possibilities of parametric amplifiers are listed in the "Conclusion." Orig. art. has: 23 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EC

NO REF SOV: 007

OTHER: 108

Card 2/2 [R]

ROSHAL', A.S.; POPOV, V.S.

Distributed coupling device for a fast cyclotron wave. Izv. vys. ucheb. zav.; radiofiz. 7 no.5:903-913 '64.

(MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet.

KONOLOV, V.P.; ROSHAL', A.S.

Logical circuits for ternary parametrans. Izv.vys.ucheb.zav.;
radicfiz. 8 no.1:177-182 '65. (MIRA 18:6)

1. Moskovskiy gosudarstvennyy universitet.

LOPUKHIN, V.M.; ROSHAL', A.S.

Electron-beam parametric amplifiers of transverse waves. Usp.
fiz. nauk 85 no.2:297-334 F '65.

(MIRA 18:3)

ACCESSION NR: AP4017039

S/0141/63/006/006/1195/1201

AUTHORS: Kovalevskiy, M. M.; Roshal', A. S.

TITLE: Expansion of the noise suppression band in a quadrupole amplifier by means of a system of uncoupled input resonators

SOURCE: IVJZ. Radiofizika, v. 6, no. 6, 1963, 1195-1201

TOPIC TAGS: quadrupole amplifier, noise suppression band, fast cyclotron wave, electron beam noise, amplifier input resonator

ABSTRACT: As an aid in practical design, it is shown that the noise suppression band of the fast cyclotron wave of an electron beam can be appreciably broadened in a quadrupole amplifier by placing additional passive resonators in front of the input resonator. The parameters of each input-system resonator must be chosen such as to eliminate completely the noise at one optimally chosen frequency in the band. Calculations show that a system of three identical resonators broadens the noise suppression band by about 1.5 times compared with a single resonator. The use of three unequal resonators

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ACCESSION NR: AP4017594

S/0109/64/009/002/0241/0251

AUTHOR: Lopukhin, V. M.; Roshal', A. S.

TITLE: Removal of noise due to a space-charge fast wave by means of a resonator

SOURCE: Radiotekhnika i elektronika, v. 9, no. 2, 1964, 241-251

TOPIC TAGS: microwaves, superhigh frequency, SHF tube, parametric longitudinal field tube, fast wave noise, electron beam tube, electron beam tube resonator, noise reduction

ABSTRACT: The propagation of noise described by a matrix of spectral densities in a resonator with a uniform longitudinal field is theoretically investigated by means of a single-dimensional single-velocity approximation. The effect of a passive resonator upon the fluctuation of an electron beam (e.g., in a parametric microwave device) is considered. It is demonstrated that as a result of an inter-

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ACCESSION NR: AP4017594

action between the beam and the resonator field, the amplitude relation between the fast and slow noise waves in the beam is altered; a correlation between these waves is established. By proper selection of the resonator and beam parameters (formulas, recommendations, and a numerical example supplied), a considerable reduction of the noise fast wave at the resonator output can be achieved. Such a resonator is recommended for parametric longitudinal-field electron-beam SHF devices. Orig. art. has: 5 figures, 24 formulas, and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University)

SUBMITTED: 17Oct62 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: GE NO REF SOV: 002 OTHER: 004

Card 2/2

ACCESSION NR: AP4017038

S/0141/63/006/006/1184/1194

AUTHOR: Roshal', A. S.

TITLE: Noisy electron beam in a system of excited resonators

SOURCE: IVUZ. Radiofizika, v. 6, no. 6, 1963, 1184-1194

TOPIC TAGS: electron beam, noisy electron beam, slot coupled resonators, electromagnetic wave propagation, electromagnetic transmission line, lumped constant transmission line, distributed parameter transmission line, matrix equation system

ABSTRACT: The propagation of waves in a system containing both distributed and lumped parameters is considered. In particular, the motion of an electron beam guided by a constant longitudinal magnetic field through a system of slots of coupled resonators is described in matrix form by a system of inhomogeneous differential equations and algebraic equations. The dimensionality of the matrix

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ACCESSION NR: AP4017038

of the equation is determined by the number of coupled waves of the stream. The system of coupled resonators through which a noisy electron beam passes is described by matrix equations and equivalent circuits, which can be formally represented in the form of equations and circuits of a single resonator. A self-consistent solution of the equations of the beam and of the system yields a matrix equation which characterizes the propagation in the beam of the input noise fluctuations, and also the noise and signal induced by the system. The formulas obtained can be converted into a readily programmed algorithm for computation with a high speed digital computer. "The author is grateful to V. M. Lopukhin and V. I. Kanavets for valuable advice and a discussion of the work." Orig. art. has: 5 figures and 43 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 04Jul62 DATE ACQ: 18Mar64 ENCL: 00

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AKHMANOV, S.A.; ROSHAL', A.S.

Theory of transients in a parametrically excited circuit. Izv.
vys. ucheb. zav.; radiofiz. 6 no.5:1008-1020 '63. (MIRA 16:12)

1. Moskovskiy gosudarstvenny universitet.

94230 (also 1052, 1071)

88161

S/109/60/005/011/010/014
E074/E485

AUTHORS: Lopukhin, V.M., Roshal', A.S. and Kuz'mina, G.A.

TITLE: The Linear Theory of Double-Beam Backward-Wave Tube
and Travelling-Wave Tube Amplifiers

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.11,
pp.1837-1847

TEXT: A theoretical investigation of the double-beam travelling-wave tube and backward-wave tube is given. In these tubes the interaction of the beams on each other is superimposed on their interaction with the delay line. The tubes thus represent a combination of an electron-wave tube and a travelling-wave tube and an electron-wave tube and a backward-wave tube respectively. Since the bunching mechanism in the t.w.t. and electron-wave tube is similar, when the average velocities of the beams are sufficiently close the second beam would be expected to introduce travelling-wave interaction. In the limiting case of equal beam velocities, a t.w.t results. With increase in the difference in the beam velocities the bunching mechanism begins to differ from that in the backward-wave tube and the amplification decreases. In the double beam backward-wave tube the situation is more complex

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The Linear Theory of Double-Beam Backward-Wave Tube and Travelling-Wave Tube Amplifiers

since the beams and energy travel in opposite directions and the bunching mechanism in the backward-wave and electron-wave tube are different. For small electron densities, the electron wave interaction might possibly be small and the process may simply be a superposition of backward wave interactions. In deriving the dispersion equations the notation in Pierce's book is adhered to. Assuming the conditions of small signal theory and using the result of Johnson's paper (Ref.4) for a double-beam backward wave tube the propagation constant Γ will satisfy the dispersion equation

$$\text{Eq. } (4) \quad \frac{iI_{01}\beta_{e1}\Gamma}{2U_{01}(\beta_{e1}-\Gamma)^2} + \frac{iI_{02}\beta_{e2}\Gamma}{2U_{02}(\beta_{e2}-\Gamma)^2} = \frac{1}{\frac{-\mu\Gamma K}{r_1^2 - r^2} + 2QK}. \quad (4)$$

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where I_{om} and U_{om} are the constant components of the current and potential in the beam of number m , $\beta_{em} = \omega/u_{om}$ where u_{om} is the average velocity of a beam of number m and the factor $\mu = 1$ when a delay line is present and zero when it is absent. In the presence of a delay line the parameter C_1 is given by the dispersion equation

$$\text{Eq. } (8) \quad \frac{C_1}{\delta^2} + \frac{C_2^3}{-\frac{1}{a}(1-a)^2 + 2i(1-a)C_1\delta + aC_1^2\delta^2} = \frac{C_1(b+jd-j\delta)}{1-4QC_1(b+jd-j\delta)}, \quad (8)$$

where

$$a = \frac{\beta_{e1}}{\beta_{e2}} = \frac{u_{02}}{u_{01}}, \quad (9)$$

$$\text{Eq. } (9) \quad C_m^3 = \frac{I_{om}K}{4U_{om}} \quad (m = 1, 2); \quad (10)$$

(10)

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Eq.(8) determines the propagation constants of five forward waves

$$\Gamma_k = j\beta_{el} - \beta_{el} C_1 \delta_k \quad (k = 1, 2, 3, 4, 5) \quad (11)$$

For the two beam travelling-wave tube, similarly we have, using Pierce's result

Eq. 12.

$$\frac{E}{\Gamma} = \left[\frac{\Gamma \Gamma_1 K}{\Gamma_1^2 - \Gamma^2} + 2QK \right] i. \quad (12)$$

which gives the dispersion equation

Eq. 13.

$$\frac{C_1}{\delta^2} + \frac{C_2^3}{-\frac{1}{a}(1-a)^2 + 2j(1-a)C_1\delta + aC_1^2\delta^2} = \frac{C_1(b+jd-j\delta)}{\mu - jQC_1(b+jd-j\delta)}, \quad (13)$$

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S/109/60/005/011/010/014
E074/E485

The Linear Theory of Double-Beam Backward-Wave Tube and Travelling-Wave Tube Amplifier

where the symbols have their usual meaning. The roots of the two dispersion equations were calculated on a computer considering amplification conditions only and not oscillation. Investigation of the roots of Eq.(8) and (13) enables the following conclusions to be drawn. In both tubes there are five waves, one having constant amplitude. The others may have constant amplitude or may be amplified or attenuated within certain limits depending on the parameters. The phase velocities of two of these waves are close to the average velocity of one beam and the phase velocities of the other two are close to that of the second beam. In the degenerate case ($a = 1$ or $C_2 = 0$) there are three waves, one of constant amplitude and two increasing or attenuated waves with velocities close to that of the first beam. The roots δ_k in this case agree with those obtained for the ordinary backward wave tube. The increase or decrease of the waves is determined by the corresponding root $Re\delta_k$ since the amplification factor is proportional to $C_1 N Re\delta_k$. The beams also affect each other very

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strongly when their average velocities differ slightly, but in this case an ordinary t.w.t. or b.w.t. is obtained. The relation of the roots to the different tube parameters is shown in Fig.2 for the b.w.t. and in Fig.3 and 4 for the t.w.t. Expressions for the field and current can be found from the solutions of the dispersion equation and the boundary conditions. For the b.w.t. these are given by

Eq.
(26)

$$E(z) = \sum_{k=1}^5 E_k e^{-r_k z}, \quad (26)$$

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$$i(z) = i_1(z) + i_2(z) = Bj \exp\left(-2\pi Nj \frac{z}{l}\right) \times \\ \times \sum_{k=1}^6 \left[\frac{1}{\delta_k^2} + \frac{C_2^3}{C_1} \frac{1}{-\frac{1}{a}(1-a)^2 + 2j(1-a)C_1\delta_k + aC_1^2\delta_k^2} \right] E_k e^{j(C_1 N \delta_k \frac{z}{l})}, \quad (27)$$

Eq.
27.

28.

$$B = \frac{I_{01}}{2U_{01}\beta_{e1}C_1^2} = \frac{2C_1}{K\beta_{e1}}. \quad (28)$$

The field at the output may be larger than at the input depending on the parameter C_1 , C_2 , a and QC_1 . For certain values 25 dB amplification is possible. The variation of field with coordinate z is shown in Fig.6. The fluctuations are due to beating of the natural waves of the system. The field and current for a t.w.t. may be calculated in a similar manner and give results of an analogous nature. The amplification depends on the parameter.

$$\chi = \frac{\omega}{\omega_p} \frac{a-1}{a+1} = (2C_1 \sqrt{QC_1})^{-1} \frac{a-1}{a+1} > \sqrt{2}. \quad (29)$$

Eq.
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The Linear Theory of Double-Beam Backward-Wave Tube and Travelling-Wave Tube Amplifier

and may be as high as 80 dB at the optimum value. Acknowledgments are expressed to the post-graduate students U.Ven-ta and R.T.Denchevyy for their assistance. There are 8 figures and 5 non-Soviet references.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova Kafedra radiotekhniki Physics Division, Moscow State University imeni M.V.Lomonosov, Department of Radioengineering)

SUBMITTED: January 21, 1960

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The Linear Theory of Double-Beam Backward-Wave Tube and Travelling-Wave Tube Amplifier

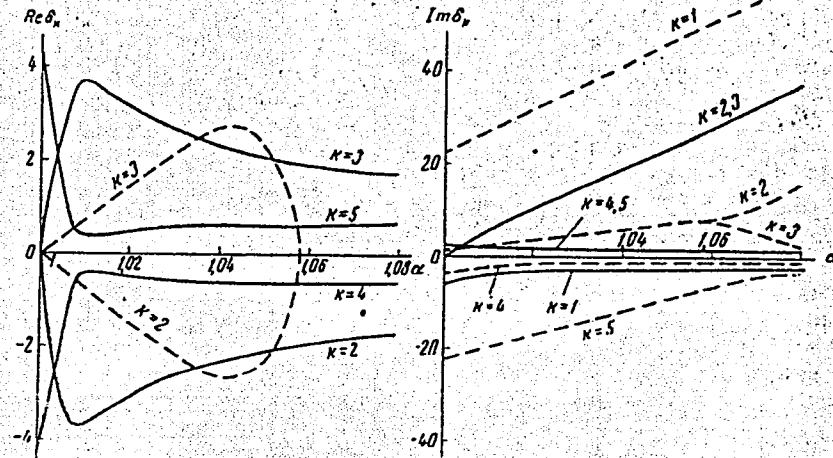


Рис. 2. Действительные и мнимые части корней дисперсионного уравнения ЭВЛОВ.
 $C_1 = 0,002$, $C_2 = 0,010$, $b = 2,072$:

Fig. 2.

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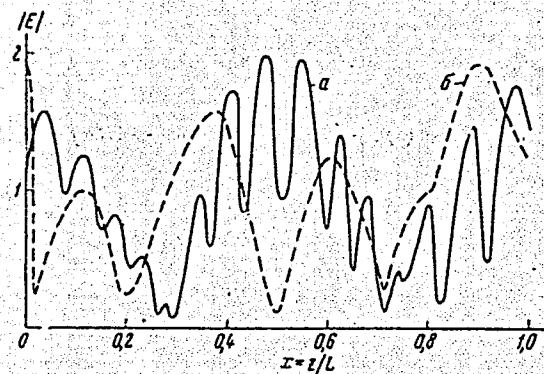


Рис. 6. Распределение поля в ЭВЛОВ при наличии пространственного заряда. $Qc_1 = 1$, $c_1N = 0,4914$,
 $b = 2,072$;
 $a - c_1 = c_2 = 0,002$, $a = 1,06$; $b - c_1 = c_2 = 0,010$, $a = 1,08$

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L 23807-65 EWT(1)/EWA(h) Pm-4/Peb

ACCESSION NR: AP5002322

8/0141/64/007/005/0903/0913
11
B

AUTHORS: Roshal', A. S.; Popov, V. S.

TITLE: Distributed coupler for a fast cyclotron wave

SOURCE: IVUZ. Radiofizika, v. 7, no. 5, 1964, 903-913

TOPIC TAGS: cyclotron wave, parametric amplifier, slow wave structure, distributed line, distributed coupler

ABSTRACT: Inasmuch as earlier papers on the subject do not contain any estimates of the signal bandwidth in which noise can be eliminated, the authors investigate the frequency characteristics and estimate the matching (noise elimination) bandwidth of a distributed unit for coupling with a fast cyclotron wave. The matching bandwidth is defined as the frequency region in which not less than half of the input signal power is transferred to the electron beam, and the noise elimination band is defined as the frequency region in

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which the beam input noise is attenuated to a specified level. Such a coupling unit is used for electron-beam parametric amplifiers. Assuming sinusoidal variation for all the components, it is shown that such a device is broadband only if its equivalent distributed line has a suitable dispersion. The matching band of such a device is $0.8 \psi_0^{-1}$ (ψ_0 -- necessary line length in cyclotron wavelengths) and is therefore close to the bandwidth of input devices of the resonator type. The noise elimination band, for a fast cyclotron wave, is several times smaller than the matching band, and depends on the required level to which the noise is to be attenuated. If the line possesses favorable dispersion and if in some frequency band the phase velocities of the fast cyclotron wave and of the wave in the line coincide, the band can be broadened. The transfer of noise from the slow cyclotron wave to the fast wave is proportional to $(4\psi_0)^{-2}$. The energy exchange between the fast cyclotron synchronous waves is proportional to $(4\psi_0)^{-1}$, and is approximately equal to

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($4Y_0$)⁻² in the middle of the band. The presence of noise in the line reduces the signal/noise ratio at the output by an amount equivalent to half the total cold loss in the line. The calculations were performed with an electronic computer. "The authors thank V. M. Lopukhin for valuable advice." Orig. art. has: 4 figures and 51 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 08Jul63

ENCL: 00

SUB CODE: EC

NR REF Sov: 000

OTHER: 009

Card

3/3

LOPUKHIN, V.M.; ROSHAL', A.S.

Removal of the noise of a fast space charge wave using a resonator.
Radiotekhnika i elektron. 9 no.2:241-251 F '64. (MIRA 17:3)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo
universiteta, kafedra radiotekhniki.

S/141/62/005/005/011/016
E140/E135

AUTHORS: Akhmanov, S.A., and Roshal', A.S.

TITLE: Ternary trigger circuits with parametric oscillators

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika,
v.5, no.5, 1962, 1017-1025

TEXT: Parametron type circuits are used with threefold frequency division to obtain three stable phase relations. The resulting circuits are analysed theoretically and experimentally and some possible applications in computer techniques outlined. A note added in proof indicates that work has been published by Yu.A. Il'inskiy (Vestnik MGU 1962, series III, no.2, 60) on a similar circuit operating at the fourth subharmonic.

There are 6 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet
(Moscow State University)

SUBMITTED: August 5, 1961 initially, and after revision,
February 5, 1962.

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S/109/62/007/004/007/018
D230/D302

4,4230

AUTHORS: Lopukhin, V.M., and Roshal', A.S.

TITLE: Reverse electron-stream amplifier

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 4, 1962,
643 - 651

TEXT: The linear theory of electron-wave amplifier for electron streams is presented. Theoretical results of the double-beam traveling-wave tubes (TWT) and those of backward-wave tubes (BWT) show that it is possible to obtain substantial amplification of constant amplitude waves by means of interference, alternatively, increased amplification of gradually-increasing waves is obtained in which case a double-beam TWT is more effective than the double-beam BWT. It is further possible to gain considerable amplification of the electron wave-type over a broad frequency band using constant amplitude standing waves which result from space-charge beating. The interaction of the reverse electron streams can also cause increased oscillations and self-excitation of the system. Thus a reflex klystron without an external resonator can generate oscillations.

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Reverse electron-stream amplifier

S/109/52/007/004/007/019
D230/D302

tions tuneable over wide limits by varying the potential; this demonstrates the mechanism of the electron-wave oscillations. The solution of the dispersion equation of the amplifier is examined and the distribution of the variables of the velocity and current is calculated. The possibility of the oscillation amplification is demonstrated for sufficiently large values of the current density in streams. The problem is solved by a linear approximation. The evaluation of the propagation constant and the plotting of the variable velocity and current density was performed on a digital computer; the significance of these results is discussed in detail. There are 5 figures and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: W.G. Dow, J.E. Rowe, General aspects of beating-wave amplification, Proc. I.R.E., 1960, 48, 1, 115; J.E. Rowe, Theory of the Crestatron - a forward-wave amplifier, Proc. I.R.E., 1959, 47, 4, 536; J.R. Pierce, Double-stream amplifiers, Proc. I.R.E., 1945, 37, 9, 930.

SUBMITTED: December 22, 1960

Card 2/2

TSIBOROVSKIY, Ya.; ROSHAK, Ya.

Investigating the heat exchange between gas and solid particles of a
boiling layer. Inzh.-fiz.zhur. no.2:3-9 F '59. (MIRA 12:3)

1. Politekhnicheskiy institut, Institut obshchey khimii, g. Varshava.
(Heat--Radiation and absorption)

AKHMANOV, S.A.; ROSHAL', A.S.

Subharmonic parametric generators as elements of superhigh-speed
digital computers; a survey. Izv. vys. ucheb. zav.; radiofiz. 4
no.2:203-243 '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet.
(Electronic digital computers) (Oscillators, Electric)

27609

S/141/61/004/002/001/017

E140/E135

9.7/00

AUTHORS: Akhmanov, S.A., and Roshal', A.S.TITLE: Parametric subharmonic generators as ultra high speed
digital computer elementsPERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Radiofizika, 1961, Vol.4, No.2, pp. 203-243

TEXT: The article constitutes a survey of the material published on the title subject up to March 1960. The authors consider that non-Soviet work, "particularly American", pays little attention to the theory of parametric oscillators. They consider that the investigations are basically empirical, which is "completely unjustified, if it is taken into account that already in the thirties the phenomenon of parametric excitation of electrical circuits had been studied in detail by Mandel'shtam, Papaleksi and their students". A section of the survey is therefore given over to this aspect of the question. The problems arising in further increase of digital computer speed consist in the following: 1) microwave trigger circuits - circuits with several stable states, characterized either by amplitude, phase or

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S/141/61/004/002/001/017
E140/E135

Parametric subharmonic generators ...
frequency of oscillation; 2) logical circuits, suitable for use at microwave frequencies and, in particular, in machines using amplitude, frequency or phase script; 3) miniaturization of economical and reliable devices. An Appendix discusses microwave devices for systems using amplitude script.

There are 22 figures and 91 references: 27 Soviet and 64 non-Soviet (of which up to 20 may be in Japanese). The four most recent English language references read as follows:

- Ref.29: C.C. Messenger. A Review of Parametric Diode Research. Semiconductor Products, Vol.1, 17 (1960).
- Ref.32: S.T. Eng, R. Solomon. Frequency Dependence of the Equivalent Series Resistance for a Germanium Parametric Amplifier Diode. Proc. IRE, Vol.48, 358 (1960).
- Ref.46: R.T. Denton. A Ferromagnetic Amplifier Using Longitudinal Pumping. Proc. IRE, Vol.48, 937 (1960).
- Ref.61: A.H. Solomon, F. Sterzer. Parametric Subharmonic Oscillator Pumped at 3^4 kMc/s. Proc. IRE, Vol.48, 1322(1960)

ASSOCIATION: Moskovskiy gosudarstvenny universitet
(Moscow State University)

SUBMITTED: November 3, 1960

Card 2/2

ROSHAL', B.; RUBAKHIN, V.

From worker to manager; on the occasion of the 65th anniversary
of S.IA.Salamanov. Kozh.-obuv.prom. no.7:39 J1 '59.
(MIRA 12:11)

1. Uchenyy sekretar' Leningradskogo Pravleniya nauchno-tekhnicheskogo obshchestva legkoy promyshlennosti (for Roshal').
2. Predsedatel' Soveta nauchno-tekhnicheskogo obshchestva kozhzavoda imeni Radishcheva (for Rubakhin).
(Salamanov, Semen IAkovlevich)

ROSHAL', B.

Conference of readers of the periodical in Leningrad. Leg.prom.
no.7:47 Jl '58. (MIA 11:9)
(Journalism, Technical)

ROSHAL', B.M. (gorod Chardzhou)

Fundamental concepts of typology in physiology and psychology.
Vop. psichol. 11 no.6:170-173 N-D '65. (MIRA 19:1)

NOVIKOV, V.V.; ROSHAL', B.Ye.

Transistor saw-toothed voltage slave oscillator with improved
characteristics. Izv.vys.ucheb.zav.; prib. 6 no.4:162-166
'63. (MIRA 16:8)

(Oscillators, Transistors)

ROSHAL', Grigoriy, narodnyy artist RSFSR

Man with a motion-picture camera. Nauka i zhizn' 30 no.4:
108-109 Ap '63. (MIRA 16:7)

(Motion pictures, Documentary)

29-58-5-4/26

AUTHORS: Pyr'yev, I., Film Director, People's Artist of the USSR,
President: Roshal', G., Film Director, Honored Artist, RSFSR, President.

TITLE: Film Artists Speak (Govoryat tvorcheskiye rabotniki
kinematografii)

PERIODICAL: Tekhnika Molodezhi, 1958, , Nr 5, p.3 (USSR)

ABSTRACT: The director I. Pyr'yev is at the same time People's Artist of the USSR and the President of the Organizational Committee of the Union of Film Artists of the USSR. He says: Film hobby begins to become an important characteristic. In enterprises, cultural centers, institutes, pioneer's homes and other organizations, film groups spontaneously are formed and film studios are created. The Union of the Film Artists of the USSR should seriously deal with the work of these amateurs. It must not be forgotten that the film amateurs represent a stock for film art.
The director Roshal' is an Honored Artist of the RSFSR and also President of the Moscow Society of Film Amateurs. He says: It is difficult to draw a line between an amateur and a master. Often the amateur of today is already tomorrow penetrating into the circles of prominent film people. The amateurs often introduce new ideas and stimulations into

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Film Artists Speak

29-58-5-4/26

the somewhat clumsy professional cinematography. The film workers are hopefully and gladly looking upon their new colleagues and they hope that film hobbies will further develop and prosper.

AVAILABLE : Library of Congress

ASSOCIATIONS: Orgkomitet Sotsialisticheskikh Kinoematografii SSSR (Organizational Committee of the Society of Cinematographic Workers of the USSR); Orgkomitet Moskovskogo obshchestva Kinoljubiteley (Organizational Committee of the Moscow Society of Film Amateurs).

1. Motion pictures

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ROSHAL', G., kinorezhisser, narodnyy artist RSFSR

You are the producer, operator, and actor. Tekh.mol. 28
no.6:24 '60. (MIRA 13:7)

1. Predsedatel' Orgkomiteta Moskovskogo obshchestva kinolyubiteley.
(Amateur moving pictures)

Roshal, G.YA.

Sov/2716

PLATE I BOOK EXTRACTS

Academy наук ССР. Инженерно-технический институт

Электростатическая генераторная лаборатория (Электростатические генераторы; Collection of Articles) Moscow, Atomizdat, 1959. 255 p., 100 copies printed.

Ed. (title page): A. K. Valter, Member, Academy of Sciences, USSR; Ed.: M. (Inside book); Z. D. Andreyev; Tech. Ed.: S. A. Vinograd.

PURPOSE: This collection of articles may be useful to scientists and engineers working with high-voltage electrostatic generators.

CONTENTS: The authors discuss the construction and operation of a number of electrostatic generators developed in the USSR and describe methods of generating negative hydrogen ions. They discuss the operation of accelerating tubes and methods of stabilizing accelerator voltages. No permanent tubes and present methods of stabilizing voltages. References appear at the end of some articles. Bibliographies are mentioned. References appear at the end of some articles.

Koval, A. G., L. I. Krupnik, A. D. Tsimberg and Yu. M. Fomichev. Problems of Producing a Beam of Negative Hydrogen Ions by Overcharging Positive Ions in a Cathode Channel of a High-frequency Source. 15

The authors discuss a negative hydrogen-ion source based on the production of a negative ion beam by overcharging positive ions in a gas flowing through a cathode channel of a high-frequency source. They also determine amount of negative hydrogen ions in that beam. There are 11 references: 6 Soviet, 1 English and 1 German.

Valter, A. K., I. M. Farman, L. I. Fomichev, Ya. N. Popov, V. M. Mal'nikov and S. P. Tyulin. Super-Horizontal Overcharging Electrostatic Generator. 195

The authors discuss the principle of operation and construction of a WIS-type electrostatic generator and describe methods of ion acceleration and overcharging. They also explain the operation of an ion-beam focusing system and briefly discuss the stabilization and measurement of generator voltages. There are 4 references: 3 Soviet and 1 English.

Valter, A. K., and A. A. Tsyplakova. Experience Acquired in the Design, Testing and Operation of a 1-Mev Vertical Electrostatic Accelerator Developed by FRI All Union Research Institute. 200

The authors discuss the construction and requirements of a 1-Mev vertical electrostatic accelerator developed by FRI All Union Research Institute. They present the results of a study of translating materials for the accelerating tube. They also discuss the results of the operation of the accelerator and its accelerating tube. They also briefly describe the operation of a 1-Mev vertical electrostatic generator developed by NGB in 1956. There are 9 references: 4 Soviet (including 1 translation) and 5 English.

AVAILABLE: Library of Congress
C-47 9/9
JP/ea
1-645

VAL'TER, A.K., akademik; ZHELEZNIKOV, F.G.; MALYSHEV, I.F.;
ROSHAL', G.YA.; SERBINOV, A.N.; TSYGIKARO, A.A.; TSYTKO, S.P.;
GOROKHOVSKIY, A.V., red.; VLASOVA, N.A., tekhn. red.

[Electrostatic accelerators of charged particles] Elektrosta-
ticheskie uskoriteli zariazhennykh chastits. Pod red.
A.K. Val'tera. Moskva, Gosatomizdat, 1963. 301 p. (MIRA 16:6)

1. Akademiya nauk UkrSSR (for Val'ter).
(Particle accelerators)

MALYSHEV, I.F.; POPKOVICH, A.V.; ROSHAL', G.Ya.; ZHELEZNIKOV, F.G.;
LYSOV, A.V.; TSEPAKIN, S.G.; SOLNYSHKOV, A.I.; BOYTSOV, A.S.;
ASTAKHOV, Ye.Ya.; MIRONOV, B.V.; LAPITSKIY, Yu.Ya.;
GATALIN, V.A.; KHOROSHKOV, V.S.

Electrostatic accelerator-injector in a proton synchrotron.
Prib. i tekhn. eksp. 7 no.4:37-45 Jl-Ag '62. (MIRA 16:4)

1. Nauchno-issledovatel'skiy institut elektrofizicheskoy
aparatury Gosudarstvennogo komiteta po ispol'zovaniyu
atomnoy energii SSSR i Institut teoreticheskoy i eksperimental'-
noy fiziki Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy
energii SSSR.
(Particle accelerators) (Synchrotron)

30606

S/058/61/000/008/006/044

A058/A101

26, Y351

AUTHORS: Malyshev, I., Zheleznykov, F., Roshal', G. Ya.

TITLE: Attempt to develop industrial models of electrostatic generators

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1951, 35, abstract 8631 (V sb.
"Elektrostat. generatory". M., Atomizdat, 1959, 224-256)

TEXT: A detailed description is given of a 2.5 Mev 3Г-2,5 (EG-2,5) electrostatic generator developed in 1955 - 1956 for mass production. Incident to operation with an ion beam, stable operation was feasible at 2.7 Mev energy and a beam current of $\sim 15\mu\text{a}$. Beam currents $> 100\mu\text{a}$ were produced at energies above 2 Mev. The focusing system of the source made it possible to obtain a patch 10 mm in diameter at a distance of 1.5 m from the output of the magnetic analyzer. The stabilization system assures energy stability better than $\pm 0.2\%$ for stabilization by means of a corona triode and $\pm 0.1\%$ for stabilization by means of an electron gun. Data are also given on a 4 - 5 Mev (at a current of 5 ma) 3Г-5-1 (EG-5-1) generator with one accelerating tube, which is intended for pulse operation as an injector.

D. Koshkarev

[Abstracter's note: Complete translation]

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X

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PHASE I BOOK EXPLOITATION

Val'ter, A. K., F. G. Zheleznykov, I. F. Malyshev, G. Ya. Roshal',
A. N. Serbinov, A. A. Tsygikalo, and S. P. Tsytko

Elektrostaticheskiye uskoriteli zaryazhennykh chastits (Electrostatic
Accelerators of Charged Particles) Moscow, Gosatomizdat, 1963.
301 p. 4700 copies printed.

Ed. (Title page): A. K. Val'ter, Academician, Academy of Sciences of
the UkrSSR.

Ed.: A. V. Gorokhovskiy; Tech. Ed.: N. A. Vlasova.

PURPOSE: This book is intended for scientists, students, engineers,
and technicians developing, utilizing, or studying high-potential
engineering and acceleration of charged particles.

COVERAGE: This textbook on electrostatic generators is devoted chiefly
to electrostatic accelerators intended for nuclear research.

Card 1/8

Electrostatic Accelerators (Cont.)

SOV/6536

Sections 1-3 of Ch. I are written by A. K. Val'ter; Section 4 of Ch. I and Chs. II, V, and VII are written by A. A. Tsygikalo; Ch. III, by A. N. Serbinov; Ch. IV, by S. P. Tsytko; and Ch. VI by I. F. Malyshev, F. G. Zhelezников, and G. Ya. Roshal'. There are 182 references: 73 Soviet and 109 non-Soviet.

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Card 2A

ROSHAL', Grigorii Yakovlevich

ROSHAL', Grigorii Yakovlevich. Financing and crediting in the petroleum industry. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1946. 68 p. (Kursy usovershenstvovaniia inzhererno-tehnicheskikh kadrov "arkomnefti")

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E039/E420

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AUTHORS: Malyshev, I.F., Popkovich, A.V., Roshal', G.Ya.,
Zhelezников, F.G., Lysov, A.V., Tsepakin, S.G.,
Solnyshkov, A.I., Boytsov, A.S., Astakhov, Ye.Ya.,
Mironov, B.V., Lapitskiy, Yu.Ya., Batalin, V.A.,
Khoroshkov, V.S.

TITLE: The electrostatic accelerator - Injector of the proton
synchrotron

PERIODICAL: Pribory i tekhnika eksperimenta, no.4, 1962, 37-45

TEXT: An electrostatic accelerator used as an injector in the
7.0 Gev proton synchrotron developed in 1956 by NIIIEFA is
described. The pressure chamber is 2200 mm in diameter and
7400 mm high and is intended for working pressures of up to
16 atm. Insulating gas is N₂:CO₂ mixture with a ratio of partial
pressure of 3:1. The main column is of conventional segmented
construction using polymethylmethacrylate. Values of the
dependence of the voltage produced on the gas pressure shows that
4 MV is obtained at 6.5 atm and 5.7 MV at 16 atm and a relative
humidity of < 1%. The charge transporter belt is a six layer

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The electrostatic accelerator ...

fabric driven by a 3000 rpm 10 KW motor at 20 m/sec. The accelerating tube and its electrode system is described in detail: it is 300 mm inner diameter with 44 segments and the residual pressure is $2 \text{ to } 5 \times 10^{-6}$ mm Hg. A Penning type discharge is used in the ion source which provides 0.3 mA total ion current on continuous operation or 20 mA pulsed; the proton component being 10 to 12% and 65% respectively. The energy of the injected particles is stabilized to about 0.1%. Results of operation in 1960-61 show that beam currents of 4 to 5 mA are obtained at 4 MV. There are 10 figures and 1 table.

ASSOCIATIONS: Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury GKAE (Scientific Research Institute for Electrophysical Apparatus GKAE)
Institut teoreticheskoy i eksperimental'noy fiziki GKAE (Institute of Theoretical and Experimental Physics GKAE)

SUBMITTED: April 6, 1962

Card 2/2

YESIPOVA, I.K., prof.; STEPANOVA, M.N.; ROSHAL', L.M.

Clinicomorphological characteristics of lobar emphysema in
newborn infants. Sov.med. 28 no.12:77-81 D '65. (MIRA 18:12)

1. Klinika detskoy khirurgii (zav. otdeleniyem M.N.Stepanova)
i patomorfologicheskiy otdel (zav. - prof. I.K.Yesipova)
Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo
instituta imeni M.F.Vladimirskogo (direktor P.M.Leonenko).

ROSHAL', L.M.

Clinical roentgenological diagnosis of acute intestinal
invagination in children. Vest. rent. i rad. 40 no.1:20-23
Ju-F '65. (MIRA 18:6)

1. Kafedra detskoy khirurgii (zav.- prof. S.Ya. Doletskiy)
Tsentral'nego instituta usovershenstvovaniya vrachey na baze
detskoy bol'nitsy imeni Rusekova (glavnnyy vrach M.M. Kraseva)
2. detskaya khirurgicheskaya klinika (zav. M.N. Stepanova)
Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo
instituta imeni Vladimirovskogo.

ROSHAY, L.M.

Article investigation of the intestine in children. Detsurgia AG
no. 0106-013 3-164 (MFA 1562)

I. Profedra detskoy khirurgii (avt. - prof. S. Ya. Dolotskiy)
Tsentral'noye in-titute urologicheskogo i chelyochevno-biologicheskogo
detskoy klinicheskoy bol'niцы (nauch. rukovodit. glavnyy vrach
M.I. Araseva), Moscow.

ROSHAL', L.M.

Conservative treatment of intestinal invagination in children.
Pediatriia 42 no.3:18-22 Mr'63 (MIRA 17:2)

1. Iz kafedry detskoy khirurgii (zav. - prof. S. Ya. Doletskiy)
TSentral'nogo instituta usovershenstvovaniya vrachey na base
Detskoy bol'nitsy imeni N.V. Rusakova (glavnnyy vrach - zaslu-
zhennyy vrach RSFSR V.A. Kruzhkov), Moskva.

ROSHAL', M.A., student

Sources of water supply in the settlement of Ushkovo. Trudy
ISGMI 26:97-103 '56. (MLRA 10:6)

1. Kafedra obshchey gigiyeny Leningradskogo sanitarno-gigiyeni-
cheskogo meditsinskogo instituta. Zav. kafedroy - chlen-korr.
AMN SSSR, prof. R.A.Babayants.

(WATER SUPPLY,
sources (Rus))